144106

NATIONAL TRUCK EQUIPMENT ASSOCIATION

ADMINISTRATIVE OFFICE
37400 Hills Tech Drive
Farmington Hills, MI 48331-3414
(248) 489-7090, FAX (248) 489-8590
info@ntea.com, www.ntea.com

WASHINGTON OFFICE
1300 19th Street NW, Fifth Floor
Washington, DC 20036-1609
(202) 557-3500, FAX (202) 628-2011

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THE WORK TRUCK SHOW
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ORLANDO, FL
Held in conjunction with the 38th Annual NTEA Convention March 5-8

November 27, 2001

Dr. Jeffrey W. Runge
Administrator
National Highway Traffic Safety Administration
400 Seventh Street, SW
Washington, DC 20590

Petition for Rulemaking on
Federal Motor Vehicle Safety Standard 201U

Submitted by the
National Truck Equipment Association

Dear Dr. Runge:

The National Truck Equipment Association (NTEA) respectfully submits this petition to amend FMVSS 201U. We ask that exclusions be made from this standard for certain low-volume vehicles with specific characteristics that make compliance with the standard impracticable. We also ask that the requirements of the standard, as they apply to multi-stage produced vehicles, be delayed until March 1, 2004. This additional time would both allow NHTSA to make a determination on this petition and provide the affected companies a reasonable amount of time to comply with whatever regulations ultimately apply.

The NTEA has determined that simply doing the minimum number of tests to certify compliance with FMVSS 201U would cost NTEA member companies over $160,000,000 (see appendix A and B) for model year 2003 alone. This does not include any development costs or costs to actually implement the standard. The NTEA has also determined that due to the capacity limitations of testing facilities qualified to conduct such testing it would take over 64 years (see appendix A and B) to complete testing for the affected vehicles of model year 2003.

The National Truck Equipment Association (NTEA) is the nation's only trade association representing distributors and manufacturers of multi-stage produced, work related trucks, truck bodies and equipment. The NTEA also represents various industry-related firms and organizations. The NTEA currently has over 1,500 member companies located throughout the nation. Most NTEA members are small businesses that sell on a local or regional basis.

The average NTEA member is a typical small business, a closely held corporation or independent proprietorship, run by community based management, operating a single facility and employing a small local work force. The average distributor member of the NTEA, the companies that sell and install truck bodies and related equipment (and generally are considered final stage manufacturers, intermediate stage manufacturers or alterers under NHTSA definitions), have been in business some 30 years, have annual sales of less than $5 million and employ 20 people. The average NTEA manufacturer member, companies that fabricate and occasionally install truck bodies and related equipment, have been in business over 36 years, have $20 million in annual sales and employ approximately 300 people. Virtually all NTEA distributor and manufacturer members qualify as small businesses for purposes of the Regulatory Flexibility Act.

Vehicles produced by NTEA member companies for commercial or vocational use include, but are not limited to, fire trucks, ambulances, utility company vehicles, aerial bucket trucks, tow trucks, beverage delivery trucks, digger derricks, dump trucks, contractor vehicles and snow removal vehicles.

Affected Vehicles

Based on the current scope of FMVSS 201U, the NTEA estimates that approximately 377,000 vehicles produced by NTEA member companies are affected by the rule (appendix B details the affected vehicle configurations and appendix C provides annual production estimates for each category of vehicle). They include ambulances, law enforcement vehicles, wheelchair transport vehicles, mobile offices, utility company vehicles and vehicles equipped with bins and racks.

Partitions and Bulkheads

One particular problem associated with FMVSS 201U for the commercial and vocational vehicle industry concerns vehicles that have installed bulkheads or partitions. The installation of a bulkhead or partition will invalidate any chassis manufacturer's compliance statement that may be available (see draft compliance language in appendix D). The amendment that the NTEA proposes in this petition would resolve this issue.

Bulkheads or partitions are used in a variety of vocations that haul or carry many odd-shaped objects that can not be readily secured in the cargo area. The partition protects the driver and passenger from loose or shifting cargo (particularly during sudden deceleration) that could otherwise hit them in the back of the head. In the case of emergency vehicles, such as police cars, the partition protects the law enforcement personnel from back seat occupants.

In commercially regulated vehicles, FMCSR 393.106 requires the use of front-end structures to protect the driver's compartment of commercial vehicles. The bulkheads designed for other vehicles perform the same safety related function.

Vehicle Production

As detailed in appendix C, the NTEA estimates that approximately 377,000 NTEA member produced vehicles (in over 1,200 identified configurations – appendix B) are affected by FMVSS 201U.

Options to Demonstrate Compliance

Typically, multi-stage vehicle manufacturers are able to demonstrate compliance with various safety standards without conducting full-scale individual dynamic tests (as discussed below). Multi-stage manufacturers generally are able to pass through the chassis manufacturer's compliance or rely on information from other sources to certify compliance with due care. In the case of FMVSS 201U, these other methods of compliance certification are not an option. Under the standard as it is currently written, in-vehicle dynamic testing per NHTSA's testing protocol, is the only way to adequately demonstrate compliance with the standard.

a) Pass Through of Chassis Manufacturer Compliance

The most common method by which multi-stage manufacturers certify compliance is by "passing through" the chassis manufacturer's certification. This is done by completing the vehicle within the specified parameters provided by the chassis manufacturer in order to keep the vehicle's compliance intact.

In some cases, the multi-stage manufacturer can not pass through the chassis manufacturer's certification. This happens in the following situations: the multi-stage manufacturer needs to complete the vehicle outside the parameters provided by the chassis manufacturer; the chassis manufacturer does not provide any compliance information to the multi-stage manufacturer; or the vehicle is completed from a cutaway chassis, a strip chassis or a cowl chassis (legally, a pass-through does not currently exist for vehicles completed on those chassis types).

In the case of FMVSS 201U, the NTEA has been informed by various chassis manufacturers that they will not be providing any compliance information for cutaway chassis, chassis cowls and strip chassis. Additionally, the completion guidelines that would allow for "pass-through" of the chassis manufacturer's certification for other vehicles, such as vehicles altered from completed vehicles, will be so restrictive to eliminate it as a compliance option (see appendix D).

b) Information from component vendors

In the case of FMVSS 201U, test data from component manufacturers is not enough to certify compliance. Validation requires in-vehicle system testing. Component level testing does not reflect chin rotation or other possible in-vehicle test variations that would likely affect compliance. Additionally, chassis manufacturer compliance testing data is proprietary and not available to outside component vendors, as such, component testing could not be assimilated into in-vehicle test results. Lastly, combined individual component level research and development costs would likely exceed whole vehicle testing costs. As such, compliance data is not realistically available from component manufacturers.

c) Engineering analysis

In order to demonstrate compliance via engineering analysis, FMVSS 201U specific experience and knowledge would be needed by each multi-stage vehicle manufacturer. This necessary level of experience is not available to final stage manufacturers with a new requirement of this nature. Previous dynamic test data is also needed for engineering analysis to be adequate for compliance certification. Such previous data does not exist.

d) Computer modeling

Computer programming of this nature is very expensive. It requires highly specialized personnel and is not widely available outside of the chassis manufacturers. Computer modeling for certifying compliance to safety standards requires a database of previous in-vehicle tests. These databases of previous testing data must contain very specific targeting data for every vehicle model.

Computer modeling for safety standard compliance is only used by the chassis manufacturers as a development tool. It is not used to replace vehicle testing.

e) Consortium dynamic testing

Testing by several companies using a single generic vehicle configuration can often be a good compliance tool. The testing data gathered from the generic design can be used by groups of companies to make compliance determinations about a number of different vehicles. In the case of FMVSS

201U, the compliance tests developed by NHTSA are very specific, even minor trim differences in a single model can produce significantly different test results. As such, no generic designs can be used for testing.

f) Individual vehicle dynamic test

Conducting in-vehicle compliance tests for the number of vehicle configurations produced by the multi-stage trucks and specialty vehicle industry is not economically or technologically possible.

As can be seen in greater detail in appendix B, there are over 1,200 identifiable vehicle configurations being produced (not including minor trim differences in model configurations that could also affect compliance). The average cost of one vehicle compliance test is between $14,000 and $17,000. This does not include any development costs, vehicle costs, costs for re-testing after any failures or transportation of the vehicle to the test facility. The two companies that provide this type of testing (MGA and Veridian) can only test 12 vehicles per month.

As detailed in appendix A it would cost this industry a minimum of $160,000,000 and over 64 years to complete compliance testing for model year 2003.

It is important to note that this testing cost figure is for the actual lab testing alone. It does not include any costs for vehicles, development, tooling, re-testing, transportation of vehicles or administration. One industry group, the Recreation Vehicle Industry Association, has estimated the actual minimum testing costs to be between $137,500 and $217,500 per model. While NTEA members build on a wider variety of chassis, based on our research the NTEA would not dispute these estimates. As mentioned earlier, NTEA members produce over 1200 distinct models that are affected by this regulation. Additionally, these costs do not take into account the actual costs of countermeasures in production vehicles that would be necessary to produce a compliant vehicle.

Based on the testing costs and testing facility capacity detailed above, it would be a practical impossibility to sell a compliant vehicle in the marketplace.

Requested Relief

As detailed above, the compliance costs associated with FMVSS 201U will make it impracticable for multi-stage vehicle manufacturers to build and sell certain vehicles to the businesses, municipalities and law enforcement agencies that require them. We request that NHTSA amend the standard as stated below. These requested amendments would allow emergency and law enforcement vehicles, as well as those equipped with potentially life-saving bulkheads or partitions, to continue to be available in the marketplace. We also ask that the effective date of the standard be delayed until March 01, 2004.

Proposed Amendments to Section 6.3(c), (d) and new (e) of FMVSS 201

(c) Any target located rearward of a vertical plane 600 mm behind the seating reference point of the driver's seating position in **(an ambulance or)** a motor home.

(d) Any target in a walk-in van, ***ambulance, fire fighting, rescue, emergency or law enforcement vehicles.***

(e) Any target in a truck or MPV located rearward of a vertical transverse plane through the foremost design H-point of the rear most forward facing designated seating position where the vehicle is equipped with a full or partial bulkhead or other similar device for the purpose of protecting or isolating the driver and passenger compartment from the cargo carrying, load bearing, work performing area of the vehicle.

New language in ***bold italics***, deleted language in **bold ( )**

Thank you for your consideration of this Petition. If you would like any additional information, please contact me at (202) 557-3500.

Sincerely,

Michael Kastner

Michael E. Kastner
Director of Government Relations
NTEA Washington, D.C. office

Appendix A

FMVSS 201U Testing Cost

Vehicle Testing Facility Capacity

- Two Facilities Available to the Public (MGA and Veridian)
- Maximum combined FMVSS 201 U testing capacity is 12 vehicles per month

Average Per Vehicle Total Testing Cost*

- $14,000 at MGA
- $16,337 at Veridian

Industry Totals

- **Minimum Annual Industry Testing Costs** **$160,397,022**
  (1216 configurations X per configuration testing cost) See also Appendix B
- **Time To Complete Model Year 2003 Testing** **64.9 years**
  (Testing facility annual capacity X total testable configurations) See also Appendix B

*Testing costs do not include the costs of engineering, development, prototype vehicles, tooling, or parts. It does not include transportation or removal of test vehicles from the test centers. Average cost assumes 100% passage on first try.

Appendix B

Number of Distinct Vehicle Configurations Subject to FMVSS 201U in Each Vehicle Category

• **Bins and Racks**	**302**
• **Ambulances**	**20**
• **Commercial Wheelchair Transport**	**188**
• **Medical Equipment Transport**	**112**
• **Mobile Office**	**120**
• **Law Enforcement**	**147**
• **Pickup and Delivery**	**24**
• **Pickup and SUV Accessories**	**303**
• **Industry Total**	**1216**

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK
1						**Vehicles**																															
2																																					
3			Ford			DaimlerChrysler						GM																										
4			E-Series			B-Van Wagon		B-Van				G-Van Wagon		G-Van		Chevy		GMC		Ford				Chevy		Pontiac	Oldsmobile	Saturn			Dodge		Toyota				
5		**Bins & Racks**	w/ sliding side door	w/ 50/40 door	Crew Van	w/ sliding side door	w/ 60/40 door	w/ sliding side door	w/ 60/40 door	Sprinter-Low Roof	Sprinter-High Roof	w/ sliding side door	w/ 60/40 door	w/ sliding side door	w/ 60/40 door	Astro Wagon	Astro Van	Safari Wagon	Safari Van	Windstar 3 door Wagon	Windstar 4 door Wagon	Windstar Van	Focus Wagon	Venture Wagon	Venture Van	Montana	Silhouette	S-Series	L-Series Sedan	Wagon	Caravan Wagon	Caravan Van	Sienna	# of Total Combinations	302	Average Test Setup Cost per Vehicle	Average FMH Impact Cost per Target
6		Solid Partition	1	1	1	1	1	1	1	1	1	1	1	1	1		1		1			1			1							1				$3,369	$536
7		Perforated Partition	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		1	1	1					1	1	1	Total set up and targeting costs based on average per vehicle (does not include vehicle, transportation, tooling, trim etc)	$1,017,287		
8		Center Door Partition	1	1				1	1	1	1				1	1		1				1			1							1						
9		Windowed Partition	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		1	1	1					1	1	1	* Total cost to perform tests based on average per target impact w/22 targets	$3,563,600		
10		Fixed Lexan Partition	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1				
11		Adjustable Lexan Partition-Floor Mounted								1	1					1	1	1	1	1	1	1		1	1	1					1	1	1	Total Test Cost	$4,580,887		
12		Adjustable Lexan Partition-Roof Mounted	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1				
13		Fixed Wire Mesh Partition	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1				
14		Adjustable Wire Mesh Partition-Floor Mounted														1	1	1	1	1	1	1		1	1						1	1	1	Number of Companies in Industry	12		
15		Adjustable Wire Mesh Partition-Roof Mounted	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1				
16		Ladder Rack	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		1	1	1					1	1	1	Total Incustry Cost	$54,970,644		
17		Raised Roof	1	1	1	1	1	1	1			1	1	1	1																						
18	Accessories	Vertical file, data desk, etc.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		1	1	1					1	1	1	Time to complete testing @12 vehicles per month-max output for 2 test centers	302	Months	
19																																			25.2	Years	
20																																					
21		*** Note: Projections assume no rear designated seating positions**																																			
22																																					
23																																					
24		Major Vocations (list not all inclusive):																																			
25																																					

	A	B	C	D	E	F	G	H	I
1									
2									
3			Ford	Chevy					
4		**Ambulances:** **(SRW Type 3 and Type 2)**	E-Series	G-Van		# of Total Combinations	20	Average Test Setup Cost per Vehicle	Average FMH Impact Cost per Target
5		**SRW Type 3:**	Cutaway	Cutaway				$3,369	$536
6		Solid Partition	1	1		Total set up and targeting costs based on average per vehicle (does not include vehicle, transportation, tooling, trim, etc.)	$67,370.00		
7		Center Door Partition	1	1					
8		Sliding Window Partition	1	1		* Total cost to perform tests based on average per target impact w/22 targets	$236,000		
9		Raised Roof	1	1					
10	Accessories-	Overhead Switch Consoles,Opticom Traffic Advisor, Escape Hatches in Roof, etc	1	1					
11						Total Test Cost	$303,370		
12									
13		**Type 2:**	VAN	VAN		Number of Companies in Industry	25		
14									
15		Solid Partition	1	1		Total Industry Cost	$7,584,250		
16		Center Door Partition	1	1					
17		Sliding Window Partition	1	1		Time to complete testing @12 vehicles per month-max output for 2 test centers	41.7	Months	
18		Raised Roof	1	1			3.5	Years	
19	Accessories-	Overhead Switch Consoles,Opticom Traffic Advisor, Escape Hatches in Roof, etc	1	1					
20									
21		* Note: Projections assume no rear designated seating positions							
22									
23									
24		Major Vocations (list not all inclusive):							
25									
26		Emergency Medical Services							
27		Fire & Rescue							

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG
1											Vehicles																						
2																																	
3			Ford				DiamlerChrysler				DiamlerChrysler		GM G-Van		Chevy																		
4			E-Series				B-Van Wagon		B-Van		Sprinter		Wagon		G-Van		Chevy		Chevy		GMC		Ford			Dodge							
5		Wheel Chair Transportation	w/ sliding side door	w/ 60/40 door	Cutaway	Crew Van	w/ sliding side door	w/ 60/40 door	w/ sliding side door	w/ 60/40 door	Low Roof	High Roof	w/ sliding side door	w/ 60/40 door	w/ sliding side door	w/ 60/40 door	Venture Wagon	Venture Van	Astro Wagon	Astro Van	Safari Wagon	Safari Van	Windstar - 3 door Wagon	Windstar - 4 door Wagon	Windstar Van	Caravan Wagon	Caravan Van				188	Average Test Setup Cost per Vehicle	Average FMH Impact Cost per Target
6		Open Front - Rear	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1					$3,389	$536
7		Solid Partition	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1						
8		Low Raised Roof	1	1	1	1	1	1	1	1			1	1	1	1	1	1	1	1	1	1	1	1	1	1	1			Total set up and targeting costs based on average per vehicle (does not include vehicle, transportation, tooling, trim, etc.)	$633,278.00		
9		High Raised Roof	1	1	1	1	1	1	1	1			1	1	1	1	1	1	1	1	1	1	1	1	1	1	1						
10		Side-Door Lift	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1						
11		Passenger Door height Extentions-low door	1	1	1	1	1	1	1	1	1	1	1	1	1	1														* Total cost to perform tests based on average per target impact w/32 targets	$3,226,764		
12		Passenger Door height Extentions-high door	1	1	1	1	1	1	1	1	1	1	1	1	1	1																	
13		Passenger Door Width Extension	1	1	1	1	1	1	1	1	1	1	1	1	1	1																	
14	Accessories-	Overhead Switch Console,Escape Hatches in Roof, etc	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1						
15																																	
16																														Total Test Cost:	$3,860,042		
17																																	
18																														Number of Companies in Industry	5		
19																																	
20		* Note: Projections assume 1 rear designated seating position for wheelchair occupant																												Total Industry Cost	$19,300,208		
21																																	
22																														Time to complete testing @12 vehicles per month-max output for 2 test centers	78.3	Months	
23		Major Vocations (list not all inclusive):																													6.5	Years	
24																																	
25		Special Education																															
26		Elder Care																															

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W
1						Vehicles																	
2			2-Passenger Configuration							5-Passenger Configuration													
3			Ford			DiamlerChrysler		Chevy															
4			E-Series			Sprinter		G-Van		Chevy	Chevy	GMC	Pontiac	Oldsmobile	Ford		Dodge			Windstar Van			
5		**Medical Equipment Transport**	w/ sliding side door	w/ 60/40 door	Crew Van	Low Roof	High Roof	w/ sliding side door	w/ 60/40 door	Venture Wagon	Astro Wagon	Safari Wagon	Montana	Silhouette	Windstar - 3 door Wagon	Windstar - 4 door Wagon	Caravan Wagon			# of Total Combinations	112	Average Test Setup Cost per Vehicle	Average FMH Impact Cost per Target
6		Open Front - Rear	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1					$3,389	$536
7		Solid Partition	1	1	1	1	1	1	1											Total set up and targeting costs based on average per vehicle (does not include vehicle, transportation, tooling, trim, etc.)	$377,272		
8		Center Door Partition	1	1	1	1	1	1	1														
9		Sliding Window Partition	1	1	1	1	1	1	1											* Total cost to perform tests based on average per target impact w/32 targets	$1,922,327		
10		Adjustable Lexan Partition-Floor Mounted								1	1	1	1	1	1	1	1						
11		Adjustable Lexan Partition-Roof Mounted								1	1	1	1	1	1	1	1						
12		Adjustable Wire Mesh Partition-Floor Mounted								1	1	1	1	1	1	1	1						
13		Adjustable Wire Mesh Partition-Roof Mounted								1	1	1	1	1	1	1	1						
14		Raised Roof	1	1	1	1	1	1	1														
15		Side-Door Lift	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1						
16		Passenger Door height Extentions	1	1	1	1	1	1	1											Total Test Cost	$2,299,599		
17	Accessories-	Overhead Switch Consoles,E-Track, Escape Hatches in Roof, etc	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1						
18																				Number of Companies in Industry	6		
19																							
20																				Total Industry Cost	$13,797,596		
21		*** Note: Projections assume 1 rear designated seating position for wheelchair occupant**																					
22																				Time to complete testing @12 vehicles per month-max output for 2 test centers	56	Months	
23		Major Vocations (list not all inclusive):																			4.7	Years	
24																							
25		Emergency Medical Services																					

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U
1									**Vehicles**												
2																					
3			Ford		DiamlerChrysler				Chevy		Ford		Dodge	Chevy							
4			E-Series		B-Van		Sprinter		G-Van		Windstar										
5		**Mobile Office**	w/ sliding side door	w/ 60/40 door	w/ sliding side door	w/ 60/40 door	Low Roof	High Roof	w/ sliding side door	w/ 60/40 door	3-door	4-door	Caravan	Astro	Safari	Venture	Montana	# of Total Combinations	120	Average Test Setup Cost per Vehicle	Average FMH Impact Cost per Target
6		Open Front - Rear	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1			$3,369	$536
7		Solid Partition	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	Total set up and targeting costs based on average per vehicle (does not include vehicle, transportation, tooling, trim, etc.)	$404,220		
8		Center Door Partition	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1				
9		Sliding Window Partition	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	* Total cost to perform tests based on average per target impact w/22 targets	$1,416,000		
10		Wire Mesh Partition	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1				
11		Raised Roof	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1				
12		Overhead Consoles	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1				
13		Shelving	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	Total Test Cost	$1,820,220		
14																					
15																		Number of Companies in Industry	6		
16																					
17																		Total Industry Cost	$10,921,320		
18		*** Note: Projections assume no rear designated seating positions**																			
19																		Time to complete testing @12 vehicles per month-max output for 2 test centers	60	Months	
20		Major Vocations (list not all inclusive):																	5.0	Years	
21																					
22		Technical Sales & Service																			

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X
1																								
2					**Vehicles**																			
3			Ford						DiamlerChrysler						Chevy									
4			E-Series						B-Van		Sprinter				G-Van									
5		**Law Enforcement**	w/ sliding side door	w/ 60/40 door	Explorer	Expedition	Excursion	Crown Vic	w/ sliding side door	w/ 60/40 door	Low Roof	High Roof	Durango	Intrepid	w/ sliding side door	w/ 60/40 door	Impala	Blazer	Suburban	Yukon	# of Total Combinations	147	Average Test Setup Cost per Vehicle	Average FMH Impact Cost per Target
6		Solid Partition	1	1					1	1	1	1			1	1							$3,369	$536
7		Center Door Partition	1	1					1	1	1	1			1	1					Total set up and targeting costs based on average per vehicle (does not include vehicle, transportation, tooling, trim, etc.)	$495,170		
8		Sliding Window Partition	1	1					1	1	1	1			1	1								
9		Raised Roof	1	1					1	1	1	1			1	1					* Total cost to perform tests based on average per target impact w/38 targets	$2,996,127		
10		Roll Bar			1	1	1	1					1	1			1	1	1	1				
11		Custom Rear Seating			1	1	1	1					1	1			1	1	1	1	Total Test Cost	$3,491,297		
12		Lexan Partition			1	1	1	1					1	1			1	1	1	1				
13		Overhead Switch Consoles	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	Number of Companies in Industry	8		
14		A-pillar Spot light	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1				
15		Roof-Mounted Spot Light	1	1	1	1	1		1	1	1	1	1		1	1		1	1	1				
16		Light Bar	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1				
17		Prisoner Transport	1	1					1	1	1	1			1	1					Total Industry Cost	$27,930,374		
18		Surveillance	1	1					1	1	1	1			1	1								
19																					Time to complete testing @12 vehicles per month-max output for 2 test centers	98.0	Months	
20		*** Note: Assumes minimum of 3 designated seating positions behind driver and front pass.**																				8.2	Years	
21																								
22																								
23		Major Vocations (list not all inclusive):																						
24																								
25		Police																						
26		Security																						

	A	B	C	D	E	F	G	H	I	J
1										
2			**Vehicles**							
3										
4			Ford	DiamlerChrysler		Chevy				
5		**PDV - SRW**	E-Series	Sprinter	Sprinter	G-Van	# of Total Combinations	24	Average Test Setup Cost per Vehicle	Average FMH Impact Cost per Target
6			Cutaway	Cutaway-Low Roof	Cutaway-High Roof	Cutaway			$3,369	$536
7		Solid Bulkhead		1	1	1	Total set up and targeting costs based on average per vehicle (does not include vehicle, transportation, tooling, trim, etc.)	$80,844.00		
8		Solid Bulkhead - Recessed	1							
9		Bulkhead w/Center Door	1	1	1	1	* Total cost to perform tests based on average per target impact w/22 targets	$283,200		
10		Bulkhead w/Sliding Center Door	1	1	1	1				
11		Bulkhead w/Cutout Door	1	1	1	1	Total Test Cost	$364,044		
12		Raised Roof	1	1	1	1				
13	Accessories-	Overhead Switch Consoles, etc	1	1	1	1	Number of Companies in Industry	8		
14										
15							Total Industry Cost	$2,912,352		
16										
17							Time to complete testing @12 vehicles per month-max output for 2 test centers	16.0	Months	
18		*** Note: Projections assume no rear designated seating positions**						1.3	Years	
19										
20										
21		Major Vocations (list not all inclusive):								
22										
23		Pick-up & Delivery								

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR	AS	AT	AU	AV	AW	AX	AY	AZ
1								48 Vehicles																																													
2																																																				
3			Ford																		DamlerChrysler										Chevy																							
4			F-Series																		Dodge Ram										CIK - Series																							
5		Pickup & SUV Accessories	F-150			F-250			F-350			Ranger		Escape	Explorer		Mtnr	Expdtn	Navgtr	Excan	1500		2500		3500		Dakota		Durango	Jeep Liberty	1500		2500			3500			S-10		Avalanche	Blazer	Trail Blazer	Jimmy	Suburban	Yukon	Hummer	Cadillac Escalade	# of Total Combinations	303	Average Test Setup Cost per Vehicle	Average FMH Impact Cost per Target
6			Reg. Cab	Ext. Cab	Crew Cab	Reg. Cab	Ext. Cab	Crew Cab	Reg. Cab	Ext. Cab	Crew Cab	Reg. Cab	Ext. Cab		Sport	Sport Trac					Reg. Cab	Quad Cab	Quad Cab	Reg. Cab	Quad Cab	Reg. Cab	Quad Cab			Reg. Cab	Ext. Cab	Reg. Cab	Ex. Cab	Crew Cab	Reg. Cab	Ext. Cab	Crew Cab	Reg. Cab	Ext. Cab														
7		Wire Mesh Partion/Dog Screen		1	1		1	1		1	1		1	1	1	1	1	1	1	1		1		1		1		1	1			1		1	1		1	1		1	1	1	1	1	1	1	1			$3,369	$536
8		Overhead Consoles-Short	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	Total set up and targeting costs based on average per vehicle (does not include vehicle, transportation, tooling, trim, etc.)	$1,020,666		
9		Overhead Consoles-Long	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1				
10		Overhead Consoles-Long w/ TV 5.6"	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	* Total cost to perform tests based on average per target impact w/22 targets	$3,575,400		
11		Overhead Consoles-Long w/ TV 13.1"	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1				
12		Roof mounted Strobe & Spot Lights	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	Total Test Cost	$4,596,066		
13		Light Bars	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1				
14																																																			
15																																																			
16																																																	Number of Companies in Industry	5		
17																																																		
18																																																	Total Industry Cost	$22,980,278		
19																																																		
20																																																	Time to complete testing @12 vehicles per month-max output for 2 test centers	126.3	Months	
21		* Note: Projections assume testing required for only 1 row of designated seating positions																																															10.5	Years	
22		** Note: Vehicle matrix does not include foreign models																																																
23																																																	* Note: At OEM level, validation would typically involve 5-6 target points for overhead console testing after the rest of the interior is tested			
24		Major Vocations (list not all inclusive):																																																	
25																																																			

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1														
2						Testing Costs		Testing Capabilities				Veridian Testing Itemized: based on minimum testing to get report		
3			Contact		* Test Setup: Vehicle and Instrument Prep, Targeting, Vehicle Storage, etc.	Running Tests: Cost per shot using 22 targets, including report, pictures, video, etc.	Average Vehicle Testing Cost	Max # Vehicles per **week** per location	# of locations that can perform testing			Test Setup	$2,000	
4		MGA	Mike Smith		$3,000	$500	$14,000	2	1			Targeting	$1,737	
5		Veridian	Jim Czamecki		$3,737	$573	$16,337	1	1			Impacts	$6,600	
6		TRC	Jeff Sankey		Does not perform 201U testing at this time							high-speed video	$4,000	
7		NATC	Dr. Simi		Does not perform 201U testing at this time							post test cleanup and deliverables	$2,000	
8		Karco Engineering	Frank Richardson		Does not perform 201U testing at this time							Testing Total:	$16,337	
9												sub-total of all non-setup costs	$12,600	
10		* Cost does not include test vehicles, trim, prototype tooling, prototype parts, re-testing										# of targets:	22	

Appendix C

Annual Production Estimates of Vehicles Subject to FMVSS 201U

Vehicle Type	Volume	%8,500lbs or less	%8,501-10,000lbs
Bins and Racks	275,000	80	20
Ambulances	2,100	0	100
Commercial Wheelchair Transport	14,000	0	100
Medical Equipment Transport	3,000	20	80
Mobile Office	4,000	75	25
Law Enforcement	75,000	100	0
Pickup and Delivery	4,000	0	100
Pickup and SUV Accessories	750	50	50
Industry Total	377,850	298,975	78,875

Appendix D

Draft OEM Compliance Statement for Multi-stage Manufacturers

1) Vehicles with an original equipment headliner.

This incomplete vehicle, when completed, will conform to FMVSS 201 providing no alterations are made which affect the function, physical or mechanical properties, environment, location or vital spatial clearances of the components, assemblies or systems identified below and providing that any second unit body installation does not result in FMH chin contact with the body at any required target location:

Instrument panel
Seats
Interior compartment doors
Sunvisors
Arm Rests
Headliners
Upper interior trim components

2) Vehicles with headliner delete option.

Conformity with the upper roof impact requirements of FMVSS 201 is not substantially affected by the design of this incomplete vehicle and General Motors makes no representation as to the conformity with this section of the standard. Conformity with other portions of this standard are as stated in 1 above